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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY  
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

|   |  |                                       |
|---|--|---------------------------------------|
| Applicant's or agent's file reference<br>p15008wo   | FOR FURTHER ACTION See Form PCT/IPEA/416                 |                                       |
| International application No.<br>PCT/SE2002/001092  | International filing date (day/month/year)<br>06-06-2002 | Priority date (day/month/year)<br>--- |
| International Patent Classification (IPC) or national classification and IPC<br>H03H 11/46, H03F 3/60, G01R 31/02 |  |                                       |
| Applicant<br>TELEFONAKTIEBOLAGET LM ERICSSON (publ) et al   |  |                                       |

- This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
- This REPORT consists of a total of 5 sheets, including this cover sheet.
- This report is also accompanied by ANNEXES, comprising:
  - ☒ (sent to the applicant and to the International Bureau) a total of 3 sheets, as follows:
    - ☒ sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).
    - ☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.
  - ☐ (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) \_\_\_\_\_, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

## 4. This report contains indications relating to the following items:

- |                                     |              |   |
|-------------------------------------|--------------|---|
| <input checked="" type="checkbox"/> | Box No. I    | Basis of the report   |
| <input type="checkbox"/>            | Box No. II   | Priority  |
| <input type="checkbox"/>            | Box No. III  | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability  |
| <input type="checkbox"/>            | Box No. IV   | Lack of unity of invention  |
| <input checked="" type="checkbox"/> | Box No. V    | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| <input type="checkbox"/>            | Box No. VI   | Certain documents cited   |
| <input type="checkbox"/>            | Box No. VII  | Certain defects in the international application  |
| <input checked="" type="checkbox"/> | Box No. VIII | Certain observations on the international application   |

|   |   |
|---|---|
| Date of submission of the demand<br>04-12-2003  | Date of completion of this report<br>24-08-2004                         |
| Name and mailing address of the IPEA/SE<br>Patent- och registreringsverket<br>Box 5055<br>S-102 42 STOCKHOLM<br>Facsimile No. +46 8 667 72 88 | Authorized officer<br>Sture Elnäs /itw<br>Telephone No. +46 8 782 25 00 |

## Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

- ☐ This report is based on a translation from the original language into the following language \_\_\_\_\_, which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1(b))
- ☐ publication of the international application (under Rule 12.4)
- ☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):

- ☐ the international application as originally filed/furnished
- ☒ the description:
- pages 1-10 \_\_\_\_\_ as originally filed/furnished
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☒ the claims:
- pages \_\_\_\_\_ as originally filed/furnished
- pages\* \_\_\_\_\_ as amended (together with any statement) under Article 19
- pages\* 1-3 \_\_\_\_\_ received by this Authority on 28-06-2004
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☒ the drawings:
- pages 1-4 \_\_\_\_\_ as originally filed/furnished
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (*specify*): \_\_\_\_\_
- ☐ any table(s) related to the sequence listing (*specify*): \_\_\_\_\_

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (*specify*): \_\_\_\_\_
- ☐ any table(s) related to the sequence listing (*specify*): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

**Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement****1. Statement**

|                               |        |            |     |
|-------------------------------|--------|------------|-----|
| Novelty (N)                   | Claims | _____      | YES |
|                               | Claims | <u>1-8</u> | NO  |
| Inventive step (IS)           | Claims | _____      | YES |
|                               | Claims | <u>1-8</u> | NO  |
| Industrial applicability (IA) | Claims | <u>1-8</u> | YES |
|                               | Claims | _____      | NO  |

**2. Citations and explanations (Rule 70.7)**

Reference is made to the following documents:

D1: US 5047728

D2: EP 0528413

D3: WO 9705695

The single general concept (the requirement of unity of invention of the independent claims) of the application is the teaching of solving the problem of providing a network having low resistance for direct current and high impedance for alternating current by using an active load arrangement comprising a voltage-controlled transistor with an inductance feedback.

D1 comprises an amplifier having an active load with an inductor. The inductor is connected between the source and the gate. Furthermore, the inductance is connected between the source and the output.

D2 describes a gain control circuit comprising a coil between the source of a field effect transistor (FET) and the output (figure 2). The transistor serves as an active load.

D3 discloses an amplifier circuit including a FET as an active load. The use of an inductance between the source and the gate/output is shown in embodiments (figure 6, page 9, lines 21-25).

The single general concept of the two independent claims 1 and 4 is known from each of the cited documents. Although the cited documents do not describe active-load devices per se, it is clear that generating an active load according to the

.../...

## Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of: Box V

concept is known. Consequently, the concept is not inventive.

Claim 4 has an additional technical feature by stating a capacitance between the gate and the output. First, the feature is not part of the single general concept. Second, for a person skilled in the art it is known that (stray) capacitances are always present between connectors of components. Third, a capacitance connected between the gate and the output is known from for instance D2, figure 21.

Accordingly, the invention according to claims 1 and 4 does not fulfil the requirement of novelty.

The inventions claimed in the remaining claims 2-3 and 5-8 are considered to be general common knowledge to a person skilled in the art. Accordingly, the inventions according to claims 2-3 and 5-8 do not fulfil the requirement of novelty.

**INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY**

International application No.

PCT/SE2002/001092

**Box No. VIII Certain observations on the international application**

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

Claim 4 is vague in stating the purpose of the invention. "To provide a proper DC output" is considered being merely a statement of desiderata.